
ANNUAL REPORT ON THE ENVIRONMENT

CHAPTER V

**HAZARDOUS
MATERIALS**

V. HAZARDOUS MATERIALS

A. ISSUES AND OVERVIEW

1. Overview

Fairfax County hazardous materials (HAZMAT) concerns may be considered less significant as compared to other jurisdictions; the industrial base within the county is relatively “clean”. Nevertheless, the county does have its share of problems. The main concerns are hazardous materials incidents involving spills, leaks, transportation accidents, ruptures, or other types of emergency discharges. Secondary is the use and disposal of hazardous materials in either daily household activities or by small quantity commercial generators. The final concern is the clean up and regulation of hazardous materials.

Although the news media is constantly reporting industrial and transportation related hazardous materials incidents, there is a general lack of awareness by the public of health and safety risks associated with the use, storage, and disposal of common household hazardous materials. Educating the public on the implications of these hazardous materials on peoples’ lives remains a significant goal.

2. Hazardous Materials Incidents

a. Overview of 2003 Hazardous Materials Incidents

The Hazardous Materials and Investigative Services Section personnel respond to reported incidents and investigate complaints of potential and actual releases, many of a non-emergency nature. During CY 2003, Staff was involved with 427 complaints. One hundred ninety-one complaints were petroleum products releases (more than triple from the year before), and 39 complaints were various types of other product releases. Storm drains and creeks and/or streams were reported to have been directly contaminated in 43 cases. Many of these occurrences were the result of motor vehicle accidents that involved damaged fuel tanks and other automotive type fluid releases. In addition, 32 reports of improper disposal of various hazardous materials and solid waste were addressed. Hurricane Isabel accounted for 10 incidents where petroleum products or vessels were impacted by floodwaters or emergency generator operations. (1)

b. Hazmat Response Team Information

The Fire and Rescue Department’s Operations and/or Hazardous Materials and Investigative Services Section respond to all reported incidents of

hazardous materials releases, spills, and discharges. The county has a well-equipped hazardous materials response team. The primary unit operates from Fire Station 34 in Oakton and three satellite units are stationed at Fire Station 1 in McLean, Fire Station 11 in Alexandria, and Fire Station 26 in Springfield. These units are strategically positioned to provide rapid response and adequate coverage throughout Fairfax County. Response personnel are trained and equipped to initiate product control and mitigation measures to prevent or minimize the adverse environmental impact and damage. All units are staffed 24 hours per day, seven days per week.

The Hazardous Materials Response Team responded to more than 900 incidents in CY 2003. These incidents included the release of products into the air, water, and soil. The majority of the incidents continue to be hydrocarbon and corrosive releases. In addition, there were hundreds of small releases involving products such as gasoline, diesel fuel, antifreeze, and hydraulic fluid that were handled by first responder units. The Team conducted regular training sessions, as well as practical exercises, with surrounding jurisdictions, as well as state and federal agencies. (1)

In addition to the efforts of the Operations Division and Hazardous Materials Investigative Services Section personnel, the Fire and Rescue Department maintains a contract with a major commercial hazardous materials response company to provide additional support for large-scale incidents. The Fire and Rescue Department is committed to protecting the environment and the citizens through proper enforcement of the Code or rapid identification, containment, and cleanup of hazardous materials incidents. (1)

3. Hazardous Materials in the Waste Stream

The disposal of household and small quantities of non-household hazardous materials into the waste stream continues to be a concern. Unlike hazardous materials incidents, the immediate impact is not as dangerous. However, the long-term impact can be just as severe. Hazardous materials in the waste stream are contaminating landfills. Sometimes hazardous materials are dumped illegally, which leads to stream and groundwater pollution and soil contamination. Household hazardous wastes are products used in and around the home that are flammable, corrosive, reactive, or toxic. These hazardous materials potentially can cause a safety problem if various household chemicals become mixed when disposed of with the regular trash. By disposing of household hazardous wastes separately in the appropriate manner, these materials can be properly handled and packaged to minimize exposure to potentially harmful chemicals and decrease the likelihood that these chemicals will enter the environment.

a. Used Automotive Oil and Fluids

A recent year-long study by the Northern Virginia Planning District Commission (NVPDC, now the Northern Virginia Regional Commission, or NVRC) for the Department of Environmental Quality estimates that approximately three to 4.5 million gallons of used oil, and approximately one million gallons of antifreeze, are “lost” in the environment each year through improper disposal by “do-it-yourselfers”, or DIYers. DIYers change their own automotive fluids (including oil, oil filters, and antifreeze) and account for 40 to 50% of those owning passenger cars. Only 15 to 30% of DIYers are believed to properly recycle or dispose of used oil. One percent or less of DIYers recycle oil filters.

This study resulted in a recommendation to reestablish a Statewide used oil recycling program aimed at capturing what amounts to the 1989 Exxon Valdez oil spill every four years. As a part of the study, NVPDC developed a database of all known collection centers in Virginia – 471 private and 125 public. The study also revealed that there are about the same number of collection facilities in 1999 as in the late 1980s; however, the volume of oil generated has increased roughly 100,000 gallons per year because of more cars on the road. Convenience and public education were found to be major factors in whether DIYers recycle or not. (2)

b. Dumping into Storm Drains

Storm drains carry stormwater runoff from streets (see the Water Resources chapter of this report). This water is not treated and goes directly into local streams. All streams in Fairfax County eventually flow into the Potomac River, which empties into the Chesapeake Bay. Anything dumped down a storm drain will follow the same path as the stormwater runoff. (3)

The cleaning up of animal waste and the disposal of such wastes down storm drains, as well as the disposal of leaves down the storm drains, are attempts at doing a service that have the effect of introducing pollutants directly into county streams. There are deliberate disposals of chemicals, oils, and other items into the storm drains as “out-of-site, out-of-mind.” In either situation, there is a misperception that the storm drains are part of the county sewage system and that the disposal of materials down these drains does not provide a direct impact to the environment.

4. Pipelines

The following was reported by the Fairfax Joint Local Emergency Planning Committee:

“More than 3,000 companies operate some 1.9 million miles of natural gas and hazardous liquid pipelines in the United States. The pipeline network includes 302,000 miles of natural gas transmission pipelines operated by 1,220 firms, and 155,000 miles are hazardous liquid transmission pipelines operated by 220 outfits. In addition to transmission pipelines, 94 liquefied natural gas facilities operate in the United States.” (4)

Pipelines traverse Fairfax County carrying refined petroleum for two companies and natural gas for three companies. The Office of Pipeline Safety in the U.S. Department of Transportation regulates pipeline design and the construction, operation, and maintenance of pipelines to ensure safe transportation of hazardous liquids and natural gas. (5)

5. Rail Transport of Hazardous Materials

Chemicals and materials that are hazardous have regularly been transported by rail. Accidents or leaks have been, and continue to be, a cause for concern. Post September 11 has introduced additional concerns.

Potential future shipments of nuclear radioactive waste by rail (and by truck) will travel through parts of the Washington, D.C. metropolitan area. Should an accidental or intentional incident occur, the effects and impacts could extend beyond that initial area.

The July 18, 2001 CSX Train fire in a Baltimore, Maryland tunnel was an unintended incident involving a train car with hazardous materials and had wide-range, long-term consequences. Major sections of the downtown were closed, businesses were impacted, Orioles’ games had to be rescheduled, and portions of a major street were closed for five weeks.

Rail through Fairfax County is in the eastern and southern portions of the county and does not include tunnels. Residents are generally not located as close to the rails in Fairfax County as in other jurisdictions. However, some hazardous materials, alone or in combination, when released can affect areas up to miles from the initial site of the incident. It is conceivable that Fairfax County residents could be impacted with hazardous materials from a rail incident in another jurisdiction.

B. PROGRAMS, PROJECTS, AND ANALYSES

1. Fairfax Joint Local Emergency Planning Committee (FJLEPC)

Local Emergency Planning Committees are required by Section 301[c] of Title III of the Emergency Planning and Community Right-to-Know Act (EPCRA), a freestanding provision of the Superfund Amendments and Reauthorization Act

of 1986 (SARA). The main thrust of SARA is to identify and clean up waste sites that are potentially toxic. Title III has two important provisions: 1) it provides for emergency response planning to cope with the accidental release of toxic chemicals into the air, land, and water; and 2) the community right-to-know provisions of Title III help to increase the public's knowledge and access to information on the presence of hazardous chemicals in their communities and releases of these chemicals into the environment. Under Title III, states are required to organize into planning areas and to establish local Emergency Planning Committees.

The FJLEPC is comprised of representatives of the City of Fairfax, the County of Fairfax, the Town of Herndon, and the Town of Vienna. Committee members include local government officials, police, fire and rescue officials, environmental and governmental planners, public health professionals, hospital officials, public utility and transportation officials, representatives of business organizations, professional societies, civic organizations, and the media. These representatives meet six times a year. The FJLEPC collects information about hazardous materials; develops and updates, on an annual basis, the Hazardous Materials Emergency Response Plan (Plan); and provides information to the public about the use, storage, and manufacture of hazardous materials. The Plan also contains notification procedures in the event of an incident, on site means of detecting incidents, evacuation routes, clean-up resources, and identification of parties responsible for the site. The Annual Plan exercise was conducted at one of the participating business's location in October 2003. (1)

FJLEPC provides education and outreach to the public. Information is disseminated through public meetings, brochures, newsletters, and a Web site: <http://www.lepcfairfax.org>. During 2003, a newsletter was mailed to civic and homeowner associations which focused on emergency preparedness, disaster planning, and fireworks safety. Members represented the Committee at various county and neighborhood functions including Celebrate Fairfax and the Fall for Fairfax events. The Committee redesigned the Web site and is reviewing its publications for revisions. FJLEPC members are available to speak to businesses or citizens groups, as requested. (1)

2. Railroad Transportation Plan

The CSX Transportation, Hazardous Material Systems, has a hazardous material emergency response plan. A written copy of that plan is on file with FJLEPC and the Fairfax County Fire & Rescue Hazmat Station 34. The Web site for CSX is: www.csx.com.

3. Storm Drain Stenciling Program

The Northern Virginia Soil and Water Conservation District (NVSWCD) has a Storm Drain Stenciling Program which encourages youth and community

groups to educate the public about the dangers of dumping anything into storm drains. This is a two-part program that includes education and stenciling of the drains. The mandatory educational component must be completed prior to stenciling, and includes distributing flyers to all homes in the neighborhood regarding how to properly dispose of household and pet waste, yard debris, and used motor oil. Trained volunteers then stencil “Dumping Pollutes – Drains to Stream” on storm water inlets in pre-approved (Virginia Department of Transportation--VDOT) areas. This program has proven to be an effective, low-cost method of educating large segments of the population about water quality problems.

4. Household Hazardous Waste Program (HHW)

Fairfax County operates two HHW programs, one at the I-66 Transfer Station and the other at the I-95 Complex as a part of its recycling program for residents of Fairfax County. Both locations are open three days a week. Information on the locations, hours of operation, types of wastes accepted, and how to dispose of the wastes can be found on the county’s Web site www.fairfaxcounty.gov/dpwes/trash/disphhw.htm. This information can be found under Public Works and Utilities and under Environment.

The HHW program has an overall community benefit, and therefore residents are not charged for disposal costs. The program receives its funding from the General Fund.

Household hazardous waste amounts will continue to increase as the population does. Capacity is available at the existing facilities to meet county needs through 2024.

FY 2004, there were 18,600 participants disposing of 373,220 pounds of HHW, a 13% increase in usage over FY 2003. The HHW included 5,175 gallons of antifreeze, 70,800 gallons of motor oil, 8,505 lead acid batteries and 180,400 gallons (or 451 tons) of latex paint. In FY 2003, there were 16,149 participants disposing of 359,840 pounds of HHW. This included 5,350 gallons of antifreeze, 71,842 gallons of motor oil, 8,107 lead acid battery cores, and 107,212 gallons of latex paint. From FY 2002 to FY 2003, there was a slight decrease in participation, total HHW pounds and gallons of antifreeze; there were, however, increases in lead acid batteries recycled and gallons of latex paint disposed. From FY 2003 to FY 2004 there was a slight increase in participation and total HHW pounds as well as lead acid batteries recycled and gallons of latex paint disposed. However, there were decreases in gallons of antifreeze and gallons of motor oil recycled.

Table V-1 lists the participation and cost for the past eleven years. The disposal costs of the HHW includes supplies and employees. (6)

Table V-1
Fairfax County Household Hazardous Waste Program:
Record of Fiscal Year Disposal

Fiscal Year	Participation	HHW total pounds	Cost per household
FY 2004	18,600 households	373,220	\$22.92
FY 2003	16,140 households	359,840	\$23.30
FY 2002	16,272 households	368,060	\$20.97
FY 2001	15,312 households	356,275	\$18.75
FY 2000	15,564 households	330,325	\$18.33
FY 1999	15,222 households	396,019	\$20.06
FY 1998	15,519 households	387,020	\$24.28
FY 1997	13,219 households	397,266	\$29.41
FY 1996	11,010 households	369,710	\$34.58
FY 1995	11,066 households	246,138	\$27.86
FY 1994	8,741 households	214,770	\$41.57

Source: Fairfax County Department of Public Works and Environmental Services

5. Commercial Hazardous Wastes

The Conditionally Exempt Small Quantity Generator (CESQG) program has been reestablished on a limited basis, to include three collection events at the I-66 Transfer Station through the end of 2004. A CESQG is any business that generates less than 220 pounds or 27 gallons of HAZMAT during a month. There is a fee for disposal of HAZMAT that the CESQG pays directly to the contractor operating this program. Commercial hazardous waste generators that do not qualify as CESQGs should look to commercial hazardous waste disposal companies for support. For more information about CESQG and a list of commercial hazardous waste disposal companies, access the county's Web site. (7)

6. Recycling Rechargeable Batteries

Fairfax County collects batteries for recycling at the HHW facilities. Mercury and lithium batteries are the only household batteries accepted by this program. Other batteries may be safely thrown away (7). Information, including hours of operations, can be found at:

www.fairfaxcounty.gov/dpwes/trash/recyclingtrash.disphhw.htm .

Rechargeable batteries are commonly found in cordless power tools, cellular and cordless phones, laptop computers, camcorders, digital cameras, and remote control toys. Rechargeable Battery Recycling Corporation (RBRC) is an organization funded by the recyclable battery manufacturers in the US for the purpose of collecting used rechargeable batteries for recycling. RBRC works with retail outlets that sell these types of batteries to collect the used batteries

when customers bring them in to purchase new ones. There are a number of retail outlets in Fairfax County where rechargeable batteries are collected for recycling. (8)

RBRC recycles the following battery chemistries: Nickel Cadmium (NiCad), Nickel Metal Hydride (Ni-MH), Lithium Ion (Li-ion), and Small Sealed Lead (Pb) weighing less than 2 pounds. Battery Recycling Seals can be found on the batteries. Additional information on what happens to the batteries, collections sites, and “handy tips for using, storing, and recharging your rechargeable batteries” can be found on the Web site: www.rbrc.org. (9)

The Fairfax County Solid Waste Management Plan (SWMP) discusses this issue in its chapter on “Special Wastes.” It reports an anticipated increase of 109 tons per year of batteries by 2025. The SWMP recommends promoting public/private recycling programs to increase special wastes recycling, including NiCad battery recycling. (10) With the increasing appetite for cell phones and cordless products using rechargeable batteries, this will be an important recycling issue in Fairfax County.

C. REPORTING ENVIRONMENTAL CONCERNS AND ISSUES

Environmental issues affect everyone living and working in the county. All environmental concerns and events negatively impacting the county should be reported. A list of contact information relating to environmental crimes is provided in Table V-2 below.

D. LEGISLATIVE UPDATE

During 2003, Virginia adopted the 2000 International Fire Code, which provided expanded language for the manufacture, storage, use, and transportation of hazardous materials. (1)

Table V-2 <u>HOW TO REPORT ENVIRONMENTAL CRIMES</u>	
<u>Type of Incident</u>	<u>Phone Number</u>
<u>ANY ACTIVE RELEASE OF MATERIALS INTO THE ENVIRONMENT</u> <p>If the dumping of any substance into a stream, into a manhole, into a storm sewer, or onto the ground is witnessed, assumptions regarding the contents of the materials should not be made. 911 should be called immediately. When calling 911, be prepared to provide specific information regarding the location and nature of the incident. The local office of the U.S. Environmental Protection Agency (703-235-1113) can be called in addition to (but not instead of) 911.</p>	911
<u>HAZARDOUS MATERIALS-DANGEROUS</u> <p>If a suspected hazardous substance is being released, if lives are in danger, or if property is threatened, 911 should be called immediately. It is also appropriate to call 911 anytime an active release is witnessed.</p>	911
<u>HAZARDOUS MATERIALS-NO IMMEDIATE DANGER</u> <p>If a known discharge of hazardous materials has occurred in the past and no lives or property are in immediate danger; this must be reported to the Fairfax County Fire and Rescue Department's Hazardous Materials and Investigative Services Section at this number (includes Towns of Clifton, Herndon, and Vienna). If there is any question about whether a release may still be active or whether there may be any immediate danger, 911 should be called.</p>	<p>During working hours, call: 703-246-4386</p> <p>After hours, call: 703-691-2131</p>
<u>RELEASE OF ANY MATERIAL INTO THE ENVIRONMENT</u> <p>Any release of materials into the environment, whether hazardous or not, should be reported to the Northern Regional Office of the Virginia Department of Environmental Quality at the above number. If the release is an active one, call 911.</p>	703-583-3800

Table V-2 (continued) <u>HOW TO REPORT ENVIRONMENTAL CRIMES</u>	
<u>Type of Incident</u>	<u>Phone Number</u>
<u>EROSION AND SEDIMENTATION</u> If the illegal removal of trees, the illegal clearing of land, and/or the illegal dumping of fill is suspected, contact Fairfax County's Code Enforcement Division at the number above. This number should also be contacted if siltation and other harmful effects of construction activity are occurring or observed on neighboring lands and waterways. All calls received during non-working hours will be responded to during the next business day.	703-324-1937
<u>HEALTH HAZARDS</u> In addition to the above contacts, if a health hazard is suspected, contact the Environmental Health Administration at the above number. The Health Department's Community Health and Safety Section (703-246-2300) can also be called. Asbestos-specific releases should also be reported to the Health Department.	703-246-2205

E. RECOMMENDATIONS

1. EQAC continues to recommend an aggressive public education campaign on how to properly dispose of household/residential, commercial, and industrial hazardous waste. Continuous partnering with the Northern Virginia Board of Realtors and solid waste haulers to distribute information to all new residents in the county is suggested. New residents would be anybody buying or renting a house, townhouse, or condominium. Creative use of other organizations is also encouraged.
2. The county should institute the recycling of NiCad batteries at the I-66 transfer station, the I-95 SW site, and other sites. With the growing popularity and use of rechargeable batteries products, especially cell phones, EQAC recommends an aggressive program to promote recycling of NiCad batteries. Commercial efforts should continue and even expand. Schools and other organizations should be encouraged to come up with creative initiative to promote significant increases in recycling rechargeable batteries
3. Efforts to locate financing to cover the printing cost of Hazardous Waste and Environmental Crime materials should continue as new sources of grants and funding may become available.

4. EQAC recommends continuing to advertise and educate the public regarding the types of hazardous materials and other environmental situations citizens are requested to report, including who they are to contact. Possible avenues are community association newsletters, press release stories to the media, and age appropriate material sent home through the schools.

REFERENCES

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2. Northern Virginia Planning District Commission, *Nvironment*, Vol.12, Number 1, Fall 1999, p1.
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4. *LEPC Connection: A Virginia Local Emergency Planning Committee Newsletter*, Fall 2000, p 1.
5. Fairfax Joint Local Emergency Planning Committee
6. Fairfax County Division of Solid Waste Disposal and Resource Recovery, Department of Public Works and Environmental Services, HHW Disposal Program, Cliff Taylor, June 30, 2004 memo
7. Fairfax County Web site; viewed September 23, 2004
www.fairfaxcounty.gov/dpwes/trash/recyclingtrash.htm
8. Email from Pamela F. Gratton, Fairfax County Division of Solid Waste Collection and Recycling, October 7, 2004
9. Rechargeable Battery Recycling Corporation (RBRC) web site viewed September 23, 2004. www.rbrc.org.
10. Solid Waste Management Task Force Plan, 2005, last modified 8/27/2004, as viewed on line September 23, 2004; www.fairfaxcounty.gov/dpwes.
11. Previous EQAC authors of this chapter and material

